GZA
GeoEnvironmental, Inc.

Engineers and
Scientists

VIA EMAIL

September 27, 2012
File No. 04.0029307.00

Ms. Amy Daigneault
Pretreatment Coordinator
Lowell Regional Wastewater Utility
451 First St. Blvd. (Rte 110)
Lowell, Massachusetts 01850

Re: Monthly Self Monitoring Report
August 2012
Merrimack Station
Public Service Company of New Hampshire
Bow, New Hampshire

380 Harvey Road
Manchester
New Hampshire
03103-3347
603-623-3600
FAX 603-624-9463
www.gza.com

Dear Ms. Daigneault:

On behalf of Public Service Company of New Hampshire (PSNH), GZA GeoEnvironmental, Inc. (GZA) is pleased to submit the attached **Self-Monitoring Report** (SMR) for the period August 1, 2012 through August 31, 2012. This SMR is intended to satisfy Conditions 7 and 8 of the Interim Discharge Authorization (IDA) issued to PSNH by the Lowell Regional Wastewater Utility (LRWU), dated March 29, 2012. Wastewater flow was approximately 48,000 gallons for the monitoring period and was estimated based on the actual number of tanker trucks sent to LRWU in August and tanker capacity.

The attached **SMR Summary Sheet** summarizes the analytical results for all required parameters as outlined in Condition 8 of the IDA. The attached **Table 1** compares the results to the LRWU's Local Sewer Discharge Limits. The results indicate that pollutant concentrations were within the limits. The analysis of the Softened Stream B samples collected (refer to the attached **Analytical Data Report** for Stream B) on August 1, 2012 was performed in accordance with the United States Environmental Protection Agency (EPA) draft Standard Operating Procedure (SOP) for trace metals analysis of flue gas desulfurization (FGD) wastewater. The SOP is described below.

Also included with this monthly report is the **Analytical Data Report** for the distillate sample collected on August 16, 2012. This waste stream was not transported to LRWU in the month of August 2012, but the analytical data reports are being provided as a courtesy.

ANALYTICAL DISCUSSION

FGD wastewater requires specialized analytical techniques to overcome matrix interferences for analysis of certain trace metals. To assist you in evaluating this issue further, we offer an excerpt below from the EPA web site and a link to their draft SOP for trace metals analysis of FGD wastewater that contains further guidance.

LABORATORY ANALYSIS OF FGD WASTEWATER

Wastewater from FGD systems can contain constituents known to cause matrix interferences. EPA has observed that, during inductively coupled plasma–mass spectrometry (ICP-MS) analysis of FGD wastewater, certain elements commonly present in the wastewater may cause polyatomic interferences that bias the detection and/or quantization of certain elements of interest. These potential interferences may become significant when measuring trace elements at concentrations in the low parts-per-billion range.

As part of a recent sampling effort for the steam electric power generating effluent guidelines rulemaking, EPA developed an SOP that was used in conjunction with EPA Method 200.8 to conduct ICP-MS analyses of FGD wastewater. The SOP describes critical technical and quality assurance procedures that were implemented to mitigate anticipated interferences and generate reliable data for FGD wastewater. EPA regulations at 40 CFR 136.6 already allow the analytical community flexibility to modify approved methods to lower the costs of measurements, overcome matrix interferences, or otherwise improve the analysis. The draft SOP developed for FGD wastewater takes a proactive approach toward looking for and taking steps to mitigate matrix interferences, including using specialized interference check solutions (i.e., a synthetic FGD wastewater matrix). EPA's draft SOP is being made available to laboratories contemplating ICP-MS analysis of FGD wastewater, either for adoption as currently written or to serve as a framework for developing their own laboratory-specific SOPs. For further information, see:

- Standard Operating Procedure: Inductively Coupled Plasma/Mass Spectrometry for Trace Element Analysis in Flue Gas Desulfurization Wastewaters (30 pp, 174K), *http://water.epa.gov/scitech/wastetech/guide/upload/steam_draft_sop.pdf*, EPA May 2011.

Considering that specialized analytical techniques are necessary to overcome matrix interference for certain analysis of trace metals in FGD wastewater, we recommend any analysis on FGD wastewater be conducted in accordance with the EPA draft SOP for trace metals analysis of FGD wastewater.

Should you have any questions concerning this report, please do not hesitate to contact me at (603) 232-8744.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Ronald A. Breton

Ronald A. Breton, P.E.
Senior Principal

RAB:rkl

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Attachments: Self-Monitoring Report
Analytical Data Reports

SELF-MONITORING REPORT

LOWELL REGIONAL WASTEWATER UTILITY
Industrial Sewer User Self-Monitoring Report Summary Sheet

Facility Information: Company Name Public Service of New Hampshire

Facility Address 97 River Road Bow, New Hampshire Permit No. NA (Interim Discharge Authorization)

Facility Contact Brad Owens Telephone (603) 224-4081

----------*Use A Separate Summary Sheet For Each Monitoring Point* ----------

Monitoring Report: Monitoring Point End of pretreatment process Submittal Date September 27, 2012

Reporting Period (circle applicable): Baseline Annually Semi-Annually Quarterly (Monthly) Re-Sample

Reporting Period Start Date August 1, 2012 Reporting Period End Date August 31, 2012

Sample Analysis: Certified Analytical Lab Eastern Analytical, Inc. (EAI)

Authorized Rep. Lorraine Olashaw Certification No. 1012

Analytical Sub-Contractor Frontier Global Sciences Certification No. E87575

Sample Collection: Sampler (Lab/Self/Other) Paul Pepler, GZA

Sample Type(s) (circle all that apply): (Grab) Time Composite Flow Composite

Grab Sampling: Sample Date 8/01/2012 Sample Time 16:00

pH (Standard Units) 7.47 Instantaneous Flow Rate (GPM) N/A

Composite Sampling: Start Date/Time N/A Stop Date/Time N/A

No. Aliquots N/A Aliquot Volume N/A Sample Volume N/A

Flow Data: Sampling Interval Volume (Gal) 8,000 Daily Flow Rate (GPD) 12,000 (Average of discharge days)

Monitoring Period Industrial Wastewater Flow (Gal) Stream A: 0, Stream B: 0 Softened Stream B: 48,000 [ ] Meter [X] Estimate

Monitoring Period Start Date August 1, 2012 Monitoring Period End Date August 31, 2012

Refer to Self-Monitoring Report Instructions for details on completing this SMR Summary Sheet

LOWELL REGIONAL WASTEWATER UTILITY
Industrial Sewer User Self-Monitoring Report Summary Sheet

Submit All Chains of Custody and Laboratory Result Sheets With SMR Summary Sheet

Analytical Results:

Parameter	Analysis Date	Result (mg/L)	Parameter	Analysis Date	Result (mg/L)
BOD			Copper		
COD	8/06/2012	330	Cyanide (Total)		
O & G 413.1 / 1664			Fluoride		
TSS			Lead	8/14/2012	<0.00796
TOC *			Mercury	8/13/2012	0.0000340
TTO ** 624 / 8260B – 625 / 8270			Molybdenum		
Aluminum			Nickel		
Antimony			Nitrogen (Kjeldahl)		
Arsenic	0814/2012	<0.0299	Phenols (Total)		
Barium			Selenium		
Beryllium			Silver	8/14/2012	<0.00398
Cadmium	8/14/2012	<0.00398	Thallium		
Chromium (Hexavalent)			Zinc		
Chromium (Total)			Sodium	8/14/2012	5,960

BOD = Biochemical Oxygen Demand COD = Chemical Oxygen Demand O & G = Oil & Grease TSS = Total Suspended Solids TTO = Total Toxic Organics
***TOC** (Total Organic Carbon) = is the amount of carbon bound in an organic compound and is often used as a non-specific indicator of water quality. TOC measures both the total carbon present as well as the inorganic carbon (IC). Subtracting the inorganic carbon from the total carbon yields TOC.*
****TTO's** = Summation of all quantifiable values greater than 0.01 mg/L for toxic organics listed in 40 CFR 413.02(i). TTO's include PCB's (Poly-Chlorinated Biphenyls), VOC's (Volatile Organic Compounds), SVOC's (Semi-Volatile Organic Compounds). PCB's, VOC's and SVOC's shall be analyzed using EPA Methods 608, 624, and 625, respectively.*

Zero Discharge / Self-Monitoring (initial if applicable):

_____ No industrial wastewater from permitted processes has been discharged to sewer during the monitoring period

_____ No sampling has been conducted on permitted sewer discharges during the monitoring period

Certification Statement:

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Brad Owens
Printed Name of Authorized Representative

Station Manager
Title


Signature of Authorized Representative

9/26/2012
Date

TABLE 1
SUMMARY OF SOFTENED STREAM B CONCENTRATIONS
COMPARED TO LOWELL SEWER DISCHARGE LIMITS
Public Service Company of New Hampshire
Merrimack Station
Bow, New Hampshire

PARAMETER	LOWELL SEWER DISCHARGE LIMITS (mg/L)	SOFTENED STREAM B RESULTS 8/01/2012 (mg/L)
Arsenic	0.556	<0.0299
Cadmium	0.056	<0.00398
Lead	0.857	<0.00796
Mercury	0.004	0.0000340
pH	5.0-9.5	7.47
Silver	0.053	<0.00398

ANALYTICAL DATA REPORT

STREAM B

Eastern Analytical, Inc.
professional laboratory & drilling services

Paul Pepler
GZA GeoEnvironmental, Inc. (NH)
380 Harvey Road
Manchester , NH 03103

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 112823
Client Identification: PSNH-MK
Date Received: 8/2/2012

Dear Mr. Pepler :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director | 8.21.12 Date | 23 # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **112823**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Temperature upon receipt (°C): 4.1 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
112823.01	Softened Stream B WW	8/2/12	8/1/12	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater : Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **112823**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Sample ID:	Softened Stream B WW
Lab Sample ID:	112823.01
Matrix:	aqueous
Date Sampled:	8/1/12
Date Received:	8/2/12

		Analysis			
	Units	**Date**	**Time**	**Method**	**Analyst**
COD **330**	mg/L	8/06/12	9:00	H8000	SCW

QC REPORT

EAI ID#: **112823**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
COD	< 10	100 (101 %R)	100 (105 %R) (4 RPD)	mg/L	8/6/12	85 - 115	20	H8000

Samples were analyzed within holding times unless noted on the sample results page.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.
Exceptions to the above statements are flagged or noted above or on the QC Narrative page.
*/! Flagged analyte recoveries deviated from the QA/QC limits.

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

17 August 2012

Jeff Gagne
Eastern Analytical, Inc
25 Chenell Drive
Concord, NH 03301

RE: Merrimack Station 200.8

Enclosed are the analytical results for samples received by Frontier Global Sciences. All quality control measurements are within established control limits and there were no analytical difficulties encountered with the exception of those listed in the case narrative section of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Liz Siska

Liz Siska
Project Manager

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ANALYTICAL REPORT FOR SAMPLES

Laboratory: Frontier Global Sciences, Inc. **SDG:**

Client: Eastern Analytical, Inc **Project:** Merrimack Station 200.8

Sample ID	Lab ID	Matrix	Date Sampled	Date Received
Softened Stream B WW	1208068-01	Water	01-Aug-12 16:00	03-Aug-12 09:17
Softened Stream B WW Field Blank	1208068-02	Water	01-Aug-12 16:00	03-Aug-12 09:17

Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

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CASE NARRATIVE

SAMPLE RECEIPT
Two (2) water samples were received August 3rd, 2012 at Frontier Global Sciences (FGS). The samples were received intact, on-ice within a cooler at 3.5 degrees Celsius.

SAMPLE PREPARATION AND ANALYSIS
Sample preparation and analysis for trace metals was performed in accordance with EPA Method 200.8.

Sample preparation and analysis for total mercury was performed in accordance with EPA Method 1631E.

ANALYTICAL ISSUES
Liquid spikes were prepared for every preparation as a measure of accuracy. All liquid spikes and certified reference material (if applicable) were within the control limits.

As an additional measure of the accuracy of the methods used and to check for matrix interference, matrix spikes (MS) and matrix spike duplicates (MSD) were digested and analyzed. All of the matrix spike recoveries were within the control limits.

A reasonable measure of the precision of the analytical methods is the relative percent difference (RPD) between a matrix spike recovery and a matrix spike duplicate recovery and between laboratory control sample recovery and laboratory control sample duplicate recoveries. All of the relative percent differences were within the control limits.

Frontier Global Sciences, Inc.

Liz Siska, Project Manager

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CHAIN OF CUSTODY FORMS

1208068

FGS Work Order: ~~1208053~~ AMB 8-13-12 **Sample Receipt Checklist** Frontier Global Sciences

Client: Eastern Analy. Date & Time Received: 8/3/12 10:05 Date Logged In: 8/3/12 Date Labeled: 8/3/12

Project: Received By: AMB Logged By: AMB Labeled By: AMB

# of Coolers Received: ___ Samples Arrived By: ✓ Shipping Service ___ Courier ___ Hand ___ Other (Specify: ___)

Tracking/Airbill Number(s): 1Z X46 599 01 9300 1775 UPS

Thermal Preservation: ___ None (Ambient) ✓ Loose Ice ___ Gel/Blue Ice ___ Other (Specify: ___) Thermal Preservation Required: (Y) N

Cooler Information:	Y/N	Comments
The coolers do not appear to be tampered with:	Y	
Custody Seals are present and intact:	N/A	not used
Custody seals signed by:	N/A	✓

Thermometer ID: 3155 CF: +0.7°C

Cooler 1:	3.5°C	Cooler 4:	°C	Cooler 7:	°C	Cooler 10:	°C		
Cooler 2:	°C	Cooler 5:	°C	Cooler 8:	°C	Cooler 11:	°C		
Cooler 3:	°C	Cooler 6:	°C	Cooler 9:	°C	Cooler 12:	°C		

Chain of Custody:	Y/N	Comments
Sample ID/Description:	Y (N) * SEE BELOW	
Date/Time of collection:	Y	
Sampled by:	N	
Preservation type:	N/A	
Requested analyses:	Y	
Required signatures:	Y	
Internal COC required:	N	

Sample Condition/Integrity:	Y/N	Comments
Sample containers intact:	Y	
Sample labels are present and legible:	Y	
Sample ID on container matches COC:	Y	
Correct sample containers used:	Y	
Samples received within holding times:	Y	
Sample volume sufficient for requested analyses:	Y	
Correct preservative used for requested analyses:	N/A	
pH of preserved samples verified and recorded:	✓	

Client Contacted: ___ Date/Time: ___ Method: ___

Anomalies/Non-conformances (attach additional pages if needed):

Temperature blank that client sent had ice cubes in it instead of water. Temp of cooler was taken without it. AMB 8-3-12

Client requests "ASAP" but "without rush surcharge" on COC. AMB 8-3-12

* Field blank not listed on COC. I will put it in LIMS using the info on the sample label. AMB 8-3-12

✓ MMD noted AMB 8-3-12

Discussion/Resolution:

FGS Sample Receipt Checklist Revision 2; 07/09/2012

Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

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CHAIN OF CUSTODY FORMS

1208068

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# **112823**

1208068

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
Softened Stream B WW	8/1/2012 16:00	aqueous	Surface Water Low Level Metals – As, Ag, Cd, Na, Pb, Hg	

EAI SRB# 112823 Project State: NH
Project ID: 3902

Company	Frontier Global Sciences, Inc.
Address	11720 North Creek Pkwy
Address	Bothell, WA,98011 USA
Account #	
Phone #	1.425.686.1996
Fax Number	1.425.686.3096

Results Needed by: Preferred date Std. *

QC Deliverables

☐A ☐A+ ☒B ☐B+ ☐C ☐P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Please test for metals (see below) via Method 200.8 MOD (ICP-MS with Collision cell)

Test for - As, Ag, Cd, Na, Pb, Hg

* ASAP without rush surcharge.

Eastern Analytical Inc. PO Number: 39222

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: ______

Relinquished by	Date/Time	Received by
[signature]	8/2/12 1715	UPS

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees

VTSR: 09:17 TEMP: 3.5°C w/cut seals 8-3-12
UPC-12 Y4L C00 01 02M 172C A-Bae, A.BAHM, FGS 10:05

Frontier Global Sciences, Inc.

[signature]

Liz Siska, Project Manager

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Bothell, WA 98011
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ANALYTICAL RESULTS

Softened Stream B WW

Matrix: Water **Laboratory ID:** 1208068-01

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
Arsenic	ND	8.50	29.9	µg/L	200	F208109	2H15005	08/14/12	EPA 200.8	U
Cadmium	ND	0.637	3.98	µg/L	200	F208109	2H15005	08/14/12	EPA 200.8	U
Lead	ND	0.637	7.96	µg/L	200	F208109	2H15005	08/14/12	EPA 200.8	U
Mercury	**34.0**	0.84	5.05	ng/L	10	F208138	2H13012	08/13/12	EPA 1631E	
Silver	ND	0.398	3.98	µg/L	200	F208109	2H15005	08/14/12	EPA 200.8	U
Sodium	**5960000**	4960	99500	µg/L	5000	F208109	2H15005	08/14/12	EPA 200.8	QB-01

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Liz Siska, Project Manager

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ANALYTICAL RESULTS

Softened Stream B WW Field Blank

Matrix: Water **Laboratory ID:** 1208068-02

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
Arsenic	ND	0.04	0.15	µg/L	1	F208109	2H15005	08/14/12	EPA 200.8	U
Cadmium	ND	0.003	0.020	µg/L	1	F208109	2H15005	08/14/12	EPA 200.8	U
Lead	ND	0.003	0.040	µg/L	1	F208109	2H15005	08/14/12	EPA 200.8	U
Mercury	ND	0.08	0.50	ng/L	1	F208138	2H13012	08/13/12	EPA 1631E	U
Silver	ND	0.002	0.020	µg/L	1	F208109	2H15005	08/14/12	EPA 200.8	U
Sodium	ND	1	20	µg/L	1	F208109	2H15005	08/14/12	EPA 200.8	QB-02, U

Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1208068-01

Batch: F208138 **Sequence:** 2H13012

Preparation: BrCl Oxidation **Lab Number:** F208138-DUP2

Analyte	Sample Concentration ng/L	Duplicate Concentration ng/L	MRL	% RPD	RPD Limit	Method	Notes
Mercury	34.01	41.75	5.00	20.4	24	EPA 1631E	

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1208068-01

Batch: F208109 **Sequence:** 2H15005

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F208109-MS/MSD1

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Arsenic	ND	15.150	24.36	161	70 - 130	EPA 200.8	QM-07
Silver	ND	1.5150	1.770	117	70 - 130	EPA 200.8	
Cadmium	0.808	0.80800	2.157	167	70 - 130	EPA 200.8	QM-07
Lead	ND	1.5150	1.911	126	70 - 130	EPA 200.8	

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Arsenic	15.150	19.31	127	23.2	70 - 130	20	EPA 200.8	QR-08
Silver	1.5150	1.620	107	8.82	70 - 130	20	EPA 200.8	
Cadmium	0.80800	2.321	187	7.31	70 - 130	20	EPA 200.8	QM-07
Lead	1.5150	1.913	126	0.106	70 - 130	20	EPA 200.8	

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1208068-01

Batch: F208109 **Sequence:** 2H15005

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F208109-MS/MSD2

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Arsenic	ND	4040.0	4115	102	70 - 130	EPA 200.8	AS
Silver	ND	202.00	210.6	104	70 - 130	EPA 200.8	AS
Cadmium	0.808	404.00	414.5	102	70 - 130	EPA 200.8	AS
Lead	ND	1010.0	992.7	98.3	70 - 130	EPA 200.8	AS

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Arsenic	4040.0	4097	101	0.439	70 - 130	20	EPA 200.8	AS
Silver	202.00	210.1	104	0.219	70 - 130	20	EPA 200.8	AS
Cadmium	404.00	412.0	102	0.587	70 - 130	20	EPA 200.8	AS
Lead	1010.0	997.6	98.8	0.496	70 - 130	20	EPA 200.8	AS

Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1208068-01RE1

Batch: F208109 **Sequence:** 2H15005

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F208109-MS/MSD3

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Sodium	5961000	505.00	5911000	-9890	70 - 130	EPA 200.8	QM-02

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Sodium	505.00	5932000	-5770	0.352	70 - 130	20	EPA 200.8	QM-02

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

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GLOBAL SCIENCES

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Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1208068-01RE1

Batch: F208109 **Sequence:** 2H15005

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F208109-MS/MSD4

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Sodium	5961000	10100000	16360000	103	70 - 130	EPA 200.8	AS

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Sodium	10100000	16270000	102	0.549	70 - 130	20	EPA 200.8	AS

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

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Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1208068-01

Batch: F208138 **Sequence:** 2H13012

Preparation: BrCl Oxidation **Lab Number:** F208138-MS/MSD1

Analyte	Sample Concentration (ng/L)	Spike Added (ng/L)	MS Concentration (ng/L)	MS % Recovery	Recovery Limits	Method	Notes
Mercury	34.01	102.00	104.3	68.9	71 - 125	EPA 1631E	QM-05

Analyte	Spike Added (ng/L)	MSD Concentration (ng/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	102.00	103.9	68.6	0.340	71 - 125	24	EPA 1631E	QM-05

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

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Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1207386-31

Batch: F208138 **Sequence:** 2H13012

Preparation: BrCl Oxidation **Lab Number:** F208138-MS/MSD3

Analyte	Sample Concentration (ng/L)	Spike Added (ng/L)	MS Concentration (ng/L)	MS % Recovery	Recovery Limits	Method	Notes
Mercury	223.5	656.25	807.9	89.1	71 - 125	EPA 1631E	

Analyte	Spike Added (ng/L)	MSD Concentration (ng/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	656.25	786.1	85.7	2.73	71 - 125	24	EPA 1631E	

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F208109 **Sequence:** 2H15005

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F208109-BS/BSD1

LCS Source: Blank Spike

Analyte	Spike Added (µg/L)	LCS Concentration (µg/L)	LCS % Recovery	Recovery Limits	Method	Notes
Sodium	500.00	481	96.3	85 - 115	EPA 200.8	
Arsenic	15.000	14.64	97.6	85 - 115	EPA 200.8	
Silver	1.5000	1.570	105	85 - 115	EPA 200.8	
Cadmium	0.80000	0.832	104	85 - 115	EPA 200.8	
Lead	1.5000	1.584	106	85 - 115	EPA 200.8	

Analyte	Spike Added (µg/L)	LCSD Concentration (µg/L)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Sodium	500.00	470	94.0	2.36	85 - 115	20	EPA 200.8	
Arsenic	15.000	14.46	96.4	1.23	85 - 115	20	EPA 200.8	
Silver	1.5000	1.584	106	0.879	85 - 115	20	EPA 200.8	
Cadmium	0.80000	0.844	106	1.49	85 - 115	20	EPA 200.8	
Lead	1.5000	1.571	105	0.825	85 - 115	20	EPA 200.8	

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F208138
Sequence: 2H13012
Preparation: BrCl Oxidation
Lab Number: F208138-BS/BSD1
LCS Source: NIST 1641 D

Analyte	Spike Added (ng/L)	LCS Concentration (ng/L)	LCS % Recovery	Recovery Limits	Method	Notes
Mercury	15.679	15.56	99.2	80 - 120	EPA 1631E	

Analyte	Spike Added (ng/L)	LCSD Concentration (ng/L)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	15.679	15.41	98.3	0.916	80 - 120	24	EPA 1631E	

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

PREPARATION BLANKS

Instrument: Hg2600-2 **Sequence:** 2H13012

Preparation: BrCl Oxidation

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F208138-BLK1	Mercury	0.04	0.50	ng/L	F208138	EPA 1631E	U
F208138-BLK2	Mercury	0.006	0.50	ng/L	F208138	EPA 1631E	U
F208138-BLK3	Mercury	0.002	0.50	ng/L	F208138	EPA 1631E	U
F208138-BLK4	Mercury	0.04	0.50	ng/L	F208138	EPA 1631E	U
F208138-BLK5	Mercury	3.26	9.90	ng/L	F208138	EPA 1631E	U
F208138-BLK6	Mercury	0.12	0.52	ng/L	F208138	EPA 1631E	U
F208138-BLK7	Mercury	0.26	1.09	ng/L	F208138	EPA 1631E	U

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

PREPARATION BLANKS

Instrument: ICPMS-6 **Sequence:** 2H15005

Preparation: Closed Vessel Nitric Oven Digestion

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F208109-BLK1	Sodium	23	20	µg/L	F208109	EPA 200.8	QB-10
F208109-BLK1	Arsenic	-0.06	0.15	µg/L	F208109	EPA 200.8	U
F208109-BLK1	Silver	0.0005	0.020	µg/L	F208109	EPA 200.8	U
F208109-BLK1	Cadmium	0.0002	0.020	µg/L	F208109	EPA 200.8	U
F208109-BLK1	Lead	0.0006	0.040	µg/L	F208109	EPA 200.8	U

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

Notes and Definitions

U	Analyte included in the analysis, but not detected
QR-08	The RPD value for the MS/MSD was outside of acceptance limits. Batch QC acceptable based on matrix duplicate and/or LCS/LCSD RPD values within control limits.
QM-07	The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on LCS and LCSD recoveries within control limits and, when analysis permits, acceptable AS/ASD.
QM-05	The spike recovery was outside acceptance limits for the MS/MSD and or AS/ASD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QM-02	The MS and/or MSD recoveries outside acceptance limits, due to spike concentration less than 1 times the sample concentration. The batch was accepted based on LCS and LCSD recoveries within control limits and, when analysis permits, acceptable AS/ASD.
QB-10	The method blank and/or initial/continuing calibration blank contains analyte at a concentration above the MRL. Only report sample results greater than 10 times the contamination value (QB-01), or samples less than the MRL (QB-02).
QB-02	The method blank and/or initial/continuing calibration blank contains analyte at a concentration above the MRL. However, the sample concentrations are less than the MRL.
QB-01	The method blank and/or initial/continuing calibration blank contains analyte at a concentration above the MRL. However, the blank concentration(s) are less than 10% of the sample result.
AS	This MS and/or MSD is an analytical spike and/or an analytical spike duplicate.
DET	Analyte Detected
MDL	Minimum Detection Limit
MRL	Minimum Reporting Limit
ND	Analyte Not Detected at or above the reporting limit
wet	Sample results reported on a wet weight basis
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
RSD	Relative Standard Deviation

Frontier Global Sciences, Inc.

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Liz Siska, Project Manager

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

112823

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

SAMPLE I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	VOC: 524.2 BTEX; 524.2 MTBE ONLY; 8260B 624 VTICS EDB DBCP; 1,4 DIOXANE; 8021B BTEX HALOS; 8015B GRO MEGRO MAYPH	SVOC: 8270D 625 SVTICS ABN A BN PAH; TPH8100 L1 L2; 8015B DRO MEDRO MAEPH; PEST 608 PCB 608 PEST 8081A PCB 8082; OIL & GREASE 1664 TPH 1664	TCLP: TCLP 1311 ABN METALS VOC PEST HERB	METALS: DISSOLVED METALS (LIST BELOW); TOTAL METALS (LIST BELOW)	INORGANICS: TS TSS TDS SPEC. CON.; BR CL F SO4 NO2 NO2NO3; BOD CBOD T. ALK.; TKN NH3 T. PHOS. O. PHOS.; pH T. RES. CHLORINE; (COD) PHENOLS TOC DOC; TOTAL CYANIDE TOTAL SULFIDE; REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	MICRO: TOTAL COLIFORM E. COLI; FECAL COLIFORM; ENTEROCOCCI HETEROTROPHIC PLATE COUNT	OTHER	# OF CONTAINERS	NOTES MEOH VIAL #
Softened Stream B WW	08/01/2012: 4:00	X	X				X		X			4	

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER

PRESERVATIVE: H-HCL; N-HNO_3; S-H_2SO_4; Na-NaOH; M-MEOH

PROJECT MANAGER: Paul Pepler

COMPANY: GZA GeoEnvironmental, Inc.

ADDRESS: 380 Harvey Road

CITY: Manchester STATE: NH ZIP: 03103

PHONE: 603-232-8717 EXT.:

FAX:

E-MAIL: paul.pepler@gza.com

SITE NAME: PSNH- MK

PROJECT #:

STATE: (NH) MA ME VT OTHER:

REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, BROWNFIELD OR OTHER:

QUOTE #: PO #:

DATE NEEDED: Standard TAT

QA/QC REPORTING LEVEL

A B C

OR

PRESUMPTIVE CERTAINTY

REPORTING OPTIONS

PRELIMS: (YES) OR NO

IF YES: FAX OR PDF

ELECTRONIC OPTIONS

NO FAX E-MAIL (PDF) EQUIS

TEMP. 4.1 °C

ICE? (YES) NO

SAMPLER(S): Paul Pepler, GZA

	DATE:	TIME:	
RELINQUISHED BY:	8/3/12	8:43	RECEIVED BY:
RELINQUISHED BY:	8/3/12	14:51	RECEIVED BY:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:

METALS: 8 RCRA 13 PP FE, MN PB, CU

OTHER METALS:

DISSOLVED METALS FIELD FILTERED? YES NO

NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)

As, Ag, Cd, Na, Pb, Hg,

Field pH: 7.47

Please send metals to Frontier for analysis by Method 200.8 MOD (ICP-MS with Collision cell)

SITE HISTORY:

SUSPECTED CONTAMINATION:

FIELD READINGS:

eastern analytical, inc.
professional laboratory services
25 CHENELL DRIVE | CONCORD, NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | FAX: 603.228.4591 | E-MAIL: CUSTOMER_SERVICE@EAILABS.COM | WWW.EAILABS.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

23

ANALYTICAL DATA REPORT

DISTILLATE

Eastern Analytical, Inc.

professional laboratory & drilling services

Paul Pepler
GZA GeoEnvironmental, Inc. (NH)
380 Harvey Road
Manchester , NH 03103

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID:	113295
Client Identification:	PSNH-MK
Date Received:	8/17/2012

Dear Mr. Pepler :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director | 8.24.12 Date | 11 # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **113295**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Temperature upon receipt (°C): 12 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
113295.01	Distillate	8/17/12	8/16/12	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater : Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **113295**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Sample ID: Distillate

Lab Sample ID: 113295.01

Matrix: aqueous

Date Sampled: 8/16/12

Date Received: 8/17/12

			Analysis			
		Units	Date	Time	Method	Analyst
Chloride	**170**	mg/L	8/17/12	11:04	4500CIE	KD

QC REPORT

EAI ID#: **113295**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Chloride	< 1	25 (98 %R)	25 (98 %R) (0 RPD)	mg/L	8/17/12	90 - 110	20	4500CIE

Samples were analyzed within holding times unless noted on the sample results page.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.
Exceptions to the above statements are flagged or noted above or on the QC Narrative page.
*/! Flagged analyte recoveries deviated from the QA/QC limits.

LABORATORY REPORT

EAI ID#: **113295**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Sample ID: Distillate

Lab Sample ID: 113295.01
Matrix: aqueous
Date Sampled: 8/16/12
Date Received: 8/17/12

		Analytical Matrix	Units	Date of Analysis	Method	Analyst
Arsenic	**0.006**	AqTot	mg/L	8/17/12	200.8	DS
Chromium	< 0.001	AqTot	mg/L	8/17/12	200.8	DS
Lead	< 0.001	AqTot	mg/L	8/17/12	200.8	DS
Selenium	**0.022**	AqTot	mg/L	8/17/12	200.8	DS

QC REPORT

EAI ID#: **113295**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Arsenic	< 0.001	1.0 (100 %R)		mg/L	8/17/12	85 - 115	20	200.8
Chromium	< 0.001	1.1 (111 %R)		mg/L	8/17/12	85 - 115	20	200.8
Lead	< 0.001	1.1 (108 %R)		mg/L	8/17/12	85 - 115	20	200.8
Selenium	< 0.001	0.91 (91 %R)		mg/L	8/17/12	85 - 115	20	200.8

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	MSD	Units	Date of Analysis	Limits	RPD	Method
Arsenic	113235.01	< 0.001	1.1 (107 %R)	1.0 (101 %R) (6 RPD)	mg/L	8/17/12	70-130	20	200.8
Chromium	113235.01	< 0.001	1.1 (108 %R)	1.1 (106 %R) (2 RPD)	mg/L	8/17/12	70-130	20	200.8
Lead	113235.01	< 0.001	1.1 (113 %R)	1.1 (107 %R) (5 RPD)	mg/L	8/17/12	70-130	20	200.8
Selenium	113235.01	< 0.001	0.90 (90 %R)	0.91 (91 %R) (1 RPD)	mg/L	8/17/12	70-130	20	200.8

Samples were analyzed within holding times unless noted on the sample results page.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.
Exceptions to the above statements are flagged or noted above or on the QC Narrative page.
*/! Flagged analyte recoveries deviated from the QA/QC limits.

PHOENIX
Environmental Laboratories, Inc.

Friday, August 24, 2012

Attn: Front Office
Eastern Analytical
25 Chenell Drive
Concord, NH 03301

Project ID: 3902
Sample ID#s: BC57679

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. All soils and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

August 24, 2012

FOR: Attn: Front Office
Eastern Analytical
25 Chenell Drive
Concord, NH 03301

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/16/12	12:00
Location Code:	EASTANAL	Received by:	LB	08/21/12	10:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	39277				

Laboratory Data

SDG ID: GBC57679
Phoenix ID: BC57679

Project ID: 3902
Client ID: DISTILLATE

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Mercury	< 0.0002	0.0002	mg/L	08/22/12	RS	SW7470/245.1
Mercury Digestion	Completed			08/22/12	X/X	SW7470/245.1

RL/PQL=Reporting/Pratical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected
BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
August 24, 2012
Reviewed and Released by: Johanna Harrington, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

August 24, 2012

QA/QC Data

SDG I.D.: GBC57679

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 207658, QC Sample No: BC57454 (BC57679)												
Mercury - Water	BRL	<0.0002	<0.0002	NC	89.2	88.2	1.1	93.2	93.0	0.2	70 - 130	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
August 24, 2012

Friday, August 24, 2012

Requested Criteria: None

State: NH

Sample Criteria Exceedences Report

GBC57679 - EASTANAL

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

10 of 10

EAI SRB# **113295**

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
Distillate	8/16/2012 12:00	aqueous	Mercury Cold Vapor (Phoenix)	

57679

EAI SRB# **113295** Project State: NH

Project ID: 3902

Company Phoenix Environmental Labs
Address 587 East Middle Turnpike
Address Manchester , CT 06040
Account #
Phone # (860) 645-1102
Fax Number 860 645-0823

Results Needed by: Preferred date 5 day

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Eastern Analytical Inc. PO Number: 39277

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
	8/20/12 1530	UPS
UPS	8/20/12 1010	
Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 - Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

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CHAIN-OF-CUSTODY RECORD

113295

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

SAMPLE I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	VOC: 524.2 524.2 BTEX 524.2 MTBE ONLY; 8260B 624 BTEX VTICs DBCP; 1, 4 DIOXANE EDB; 8021B BTEX HALOS; 8015B GRO MEGRO MAVPH	SVOC: 8270D 625 ABN A BN SVTICs PAH; TPH8100 L1 L2; 8015B DRO MEDRO MAEPH; PEST 608 PCB 608 PEST 8081A PCB 8082; OIL & GREASE 1664 TPH 1664	TCLP: TCLP 1311 ABN METALS VOC PEST HERB	METALS: DISSOLVED METALS (LIST BELOW); TOTAL METALS (LIST BELOW)	INORGANICS: TS TSS TDS SPEC. CON.; (Cl) F SO_4 Br NO_2 NO_3 NO_2NO_3; BOD CBOD T. ALK.; TKN NH_3 T. PHOS. O. PHOS.; pH T. RES. CHLORINE N(T); COD PHENOLS TOC DOC; TOTAL CYANIDE TOTAL SULFIDE; REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	MICRO: TOTAL COLIFORM E. COLI FECAL COLIFORM; ENTEROCOCCI HETEROTROPHIC PLATE COUNT	OTHER	# OF CONTAINERS	NOTES MEOH VIAL #
Distillate	~~08/18/2012~~ 13:00 ~~PM~~ * 08/16/2012	WW	G				X	X					23 VOA

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER

PRESERVATIVE: H-HCL; N-HNO_3; S-H_2SO_4; Na-NaOH; M-MEOH

PROJECT MANAGER: Paul Pepler

COMPANY: GZA GeoEnvironmental, Inc.

ADDRESS: 380 Harvey Road

CITY: Manchester STATE: NH ZIP: 03103

PHONE: 603-232-8717 EXT.:

FAX:

E-MAIL: paul.pepler@gza.com

SITE NAME: PSNH- MK

PROJECT #:

STATE: (NH) MA ME VT OTHER:

REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, BROWNFIELD OR OTHER:

QUOTE #: PO #:

DATE NEEDED: Standard TAT

QA/QC REPORTING LEVEL

A B C

OR

PRESUMPTIVE CERTAINTY

REPORTING OPTIONS

PRELIMS: (YES) OR NO

IF YES: FAX OR PDF

ELECTRONIC OPTIONS

NO FAX E-MAIL (PDF) EQUIS

TEMP. 12° °C

ICE? (YES) NO

SAMPLER(S): Paul Pepler, GZA

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
[signature]	8/17/12	8:00 am	[signature]
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:

METALS: 8 RCRA 13 PP Fe, Mn Pb, Cu As, Cr, Pb, Se, Hg (cv)

OTHER METALS:

DISSOLVED METALS FIELD FILTERED? YES NO

NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)

FIELD pH: 9.04 SU

PLEASE PERFORM METALS ANALYSIS INHOUSE (As, Cr, Pb, Se)

★ Date change per P. Pepler, 8/17 JN

SITE HISTORY:

SUSPECTED CONTAMINATION:

FIELD READINGS:

eastern analytical, inc.
professional laboratory services
25 CHENELL DRIVE | CONCORD, NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | FAX: 603.228.4591 | E-MAIL: CUSTOMER_SERVICE@EAILABS.COM | WWW.EAILABS.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

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